2.2 Compliance Status

K. R. Price

This section summarizes the activities conducted to ensure that the Hanford Site is in compliance with federal environmental protection statutes and related state and local environmental protection regulations. Also discussed is the status of compliance with these requirements. Environmental permits required under the environmental protection regulations are discussed under the applicable statute.

2.2.1 Hanford Federal Facility Agreement and Consent Order, 1999 Performance

The Tri-Party Agreement (Ecology et al. 1998) commits DOE to achieve compliance with the remedial action provisions of CERCLA and with the treatment, storage, and disposal unit regulations and corrective action provisions of RCRA, including the state's implementing regulations.

From 1989 through 1999, a total of 636 enforceable milestones and 253 unenforceable target dates were completed on or ahead of schedule. In 1999, there were 44 specific cleanup milestones and target dates scheduled for completion: 41 were completed on or before their required due dates and 2 were delayed because of privatization issues, and 1 was delayed because of RCRA barrier concerns. Highlights of the work accomplished in 1999 are listed in Section 2.3, "Activities, Accomplishments, and Issues."

2.2.2 Environmental Management Systems

At the Hanford Site, major contractors have issued Integrated Environment, Health, and Safety Management Systems plans. These programs, contractually mandated by DOE, are intended to protect the worker, public, and environment by integrating environment, health, and safety into the way work is planned and performed. The international voluntary consensus standard ISO 14001, *Environmental Management Systems – Specifications with Guidance for Use*, and DOE P 450.4, *Safety Management System Policy*, form the basis of the systems.

In 1998, DOE Headquarters approved the *Integrated Environment, Safety, and Health Program Description* (https://sbms.pnl.gov/program/pd03d010.htm) for the Pacific Northwest National Laboratory. Also in 1998, Fluor Hanford, Inc. issued an *Integrated Environmental, Safety, and Health Management System Plan* (HNF-MP-003); and Bechtel Hanford, Inc. issued an *Integrated Environmental, Safety, and Health Management System Description* (BHI-01199). Efforts continued in 1999 to implement and improve these environmental, safety, and health programs.

2.2.3 Chemical Management Systems

The Hanford Site, with its numerous contractors, facilities, and processes uses a variety of approaches for chemical management. The prime contractors developed chemical management system requirements for the Hanford Site. The requirements were approved by the prime contractors on November 25, 1997, and transmitted to the DOE Richland Operations Office. These requirements are applicable within the Hanford Site to the acquisition, use, storage, transportation, and final disposition of chemicals including hazardous chemicals as defined in the Occupational Safety and Health Administration's Hazard Communication Standard (29 CFR 1910.1200, Appendixes A and B).

During the first quarter of 1998, each contractor performed a gap analysis of their chemical operations against the chemical management system requirements. The gaps identified, including procedure development and/or modifications, were translated into needs. These were then evaluated, using a graded approach that considered complexity of operations and associated hazards. The outcome of the gap analysis was identification of actions for each of the prime contractors to obtain conformance with the chemical management system requirements. The prime contractors worked toward conforming to the established requirements and achieved closure of identified gaps in calendar year 1999. Periodic reviews of chemical management programs are being conducted; further enhancements to prime contractor chemical management systems are anticipated to be implemented in 2000 and beyond.

Details on the chemical inventories stored at the Hanford Site may be found in Section 2.5.2, "Chemical Inventories."

2.2.4 Comprehensive Environmental Response, Compensation, and Liability Act

In 1980, CERCLA was enacted to address past releases or potential releases of hazardous substances, pollutants, and contaminants to the environment. The EPA is the federal agency responsible for oversight of DOE's implementation of CERCLA. There is significant overlap between the state RCRA corrective action program (see Section 2.2.6) and CERCLA, and many waste management units are subject to remediation under both programs. The CERCLA program is implemented via 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," which establishes procedures for characterization, evaluation, and remediation. The Tri-Party Agreement addresses CERCLA implementation at Hanford and is generally consistent with the contingency plan process.

There are several remediation activities under way at Hanford that are accomplished using the CERCLA process (e.g., remedial investigation in the 200 and 300 Areas, cleanup in the 100 and 300 Areas). Specific project activities and accomplishments are described in Section 2.3.11, "Environmental Restoration Project."

2.2.5 Emergency Planning and Community Right-To-Know Act

This act requires states to establish a process to develop chemical emergency preparedness programs and to distribute within communities information on hazardous chemicals present in facilities. The act has

two subtitles: Subtitle A includes requirements for emergency planning (Sections 301-303) and emergency release notification (Section 304); Subtitle B requires periodic reporting of chemical inventories and associated hazards (Sections 311-312), releases, and waste management activities (Section 313).

Sections 301-303 require states to establish a state emergency response commission and local emergency planning committees. These organizations gather information and develop emergency plans for local planning districts in the state. Facilities that produce, use, or store extremely hazardous substances in quantities above threshold planning quantities must identify themselves to the state emergency response commission and the local emergency planning committee, provide any additional information the local emergency planning committee requires for development of the local emergency response plan, and notify the committee of any changes occurring at the facility that may be relevant to emergency planning. It should be noted that the entire Hanford Site is considered a single facility for the purpose of determining threshold planning and reporting quantities. This does not include, however, activities conducted by others on Hanford Site lands covered by leases, use permits, easements, and other agreements whereby land is used by parties other than DOE.

Under Section 304, facilities must also notify the state emergency response commission and the local emergency planning committee immediately after an accidental release of an extremely hazardous substance over the reportable quantity established for that substance, and follow up the notification with a written report. Extremely hazardous substances are listed in 40 CFR 355 (Appendixes A and B) along with the applicable threshold planning quantity.

Sections 311 and 312 require facilities that store hazardous chemicals in amounts above minimum threshold levels to report information regarding those chemicals to the state emergency response commission, local emergency planning committee, and local fire department. Both sections cover chemicals that are considered physical or health hazards by the Occupational Safety and Health Act of 1970 Hazard Communication Standard (29 CFR 1910.1200). The minimum threshold level is 4,545 kilograms (10,000 pounds) for hazardous chemicals. If the chemical is an extremely hazardous substance, the minimum threshold level is 277 kilograms (500 pounds) or the listed threshold planning quantity, whichever is less. These thresholds apply to the total quantities of such chemicals that are stored or received in aggregate at the Hanford Site, not to individual facilities at the site. Section 311 calls for the submittal of a material safety data sheet for each hazardous chemical present above minimum threshold levels or a listing of such chemicals with associated hazard information. The listing must be updated within 3 months of any change to the list, including receipt of new chemicals above minimum threshold levels or discovery of significant new hazard information regarding existing chemicals. Section 312 requires annual submittal of more detailed quantity and storage information regarding the same list of chemicals, in the form of a Tier One or Tier Two Emergency and Hazardous Chemical Inventory report.

The Hanford Site provides appropriate hazardous chemical inventory information to the Washington State Department of Ecology Community Right-To-Know Unit; local emergency planning committees for Benton, Franklin, and Grant Counties; and to both the Richland and Hanford Site fire departments. An updated material safety data sheet was issued in April 1999, which consisted of 33 hazardous chemicals present in quantities exceeding minimum threshold levels, including three extremely hazardous substances. No subsequent updates to the list were required during 1999. The 1999 Hanford Site Tier Two Emergency and Hazardous Chemical Inventory (DOE/RL-2000-08) was issued in February 2000.

Under Section 313, facilities must report total annual releases of certain toxic chemicals. The *Pollution Prevention Act* requires additional information with the report, and Executive Order 12856 (EPA 100-K-93-001) extends the requirements to all federal facilities, regardless of the types of activities conducted. Based on evaluation of toxic chemical usage data during calendar year 1998 at the Hanford Site, chlorine was the only chemical used in quantities exceeding concentration thresholds that require reporting under Section 313. Because the associated activities resulted in minimal quantities of chlorine released to the environment or entering waste streams, the site was eligible to apply the alternate 455,000-kilogram (1,000,000-pound) threshold for manufacture, process, or other use of the chemical. The site submitted the required forms for chlorine in June 1999, certifying that the criteria for applying the alternate threshold were met. An evaluation of toxic chemical usage data for calendar year 1999 at the Hanford Site is currently being performed. An appropriate report will be issued in 2000.

Table 2.2.1 provides an overview of 1999 reporting under the *Emergency Planning and Community Right-To-Know Act*.

2.2.6 Resource Conservation and Recovery Act

2.2.6.1 Hanford Facility RCRA Permit

The Hanford Facility RCRA Permit (#WA7890008967), Dangerous Waste Portion, that was issued by the Washington State Department of Ecology has been in effect since late September 1994 (DOE/RL-91-28, Rev. 4). The permit provides the foundation for all future RCRA permitting on the Hanford Site in accordance with provisions of the Tri-Party Agreement (Ecology et al. 1998).

2.2.6.2 RCRA/Dangerous Waste Permit Applications and Closure Plans

For purposes of the RCRA and the Washington State dangerous waste regulations (WAC 173-303), the Hanford Site is considered a single facility that encompasses over 70 treatment, storage, and disposal units. The Tri-Party Agreement recognized that all of the treatment, storage, and disposal units could

Table 2.2.1. Emergency Planning and Community Right-to-Know Act Compliance Reporting, 1999[a]

Sections of the Act	Yes	No	Not Required
302-303: Planning notification	X[b]		
304: Extremely hazardous substances release notification			X
311-312: Material safety data sheet/chemical inventory	X		
313: Toxic chemical release inventory reporting (for calendar year 1998)	X		

(a) "Yes" indicates that notifications were provided and/or reports were issued under the applicable provisions. "No" indicates that notifications or reports should have been provided but were not. "Not Required" indicates that no actions were required under the applicable provisions, either because triggering thresholds were not exceeded or no releases occurred.
(b) These notifications apply to the Hanford Site but were completed prior to 1999.

not be issued permits simultaneously and a schedule was established for submitting unit-specific Part B dangerous waste permit applications and closure plans to the Washington State Department of Ecology. During 1999, five Part A, Form 3, revisions and one new Part A, Form 3, were certified and submitted to the Washington State Department of Ecology. In 1999, two Part B permit applications for final status were certified and submitted. In addition, three closure-related documents (DOE/RL-99-43, DOE/RL-99-46, and DOE/RL-99-11) were filed with the Washington State Department of Ecology.

2.2.6.3 RCRA Groundwater Monitoring Project Management

Table 2.2.2 lists the facilities and units (or waste management areas) that require groundwater monitoring and notes their monitoring status. Samples were collected from 238 RCRA wells sitewide in 1999; this was six less than during 1998.

Groundwater samples were analyzed for a variety of dangerous waste constituents and site-specific constituents, including selected radionuclides. The constituent lists meet the minimum RCRA regulatory requirements and are integrated to supplement other groundwater project requirements (e.g., CERCLA) at the Hanford Site.

During 1999, eight new RCRA wells were installed (Table 2.2.3) to fulfill requirements of the Tri-Party Agreement. Milestone M-24-00K (Ecology et al. 1998) required the installation of eight new RCRA groundwater monitoring wells. The installation of these eight wells was successfully completed on February 17, 2000. Of these, six were installed as new groundwater assessment wells; three at Waste Management Area S-SX, one at Waste Management Area TX-TY located in the 200-West Area, and two at Waste Management Area B-BX-BY, located in the 200-East Area. Two groundwater monitoring wells were installed to replace wells going dry; one well was installed at the former 216-S-10 pond and ditch located in 200-West Area and the other was installed at the former 216-B-3 pond located in 200-East Area. All the wells are completed as shallow (top of the aquifer) monitoring wells. The four new 200-West Area wells have ~4.6-meter (15-feet) -long well screens intended to monitor the uppermost portion of the unconfined aquifer. Four of the eight wells were drilled to the top of basalt, i.e., the base of the upper aquifer system, to characterize the vertical extent of known groundwater contaminants and define aquifer flow. Well data packages, PNNL-13199, PNNL-13200, PNNL-13201, PNNL-13198, and BHI-01367, Rev. 0 contain more detail information about these new wells, including the detailed geologic and geophysical descriptions and a complete set of sample data results.

At the end of 1999, 14 RCRA waste management areas were monitored under interim status indicator parameter evaluation, 7 were monitored under interim status assessment, and 2 were monitored under final status corrective action. The Waste Management Area U entered an assessment phase during August 1999 due to elevated specific conductance above the critical mean. The former 120-D-1 ponds in the 100-D Area were clean closed during 1999 and require no additional groundwater monitoring. All the facilities being monitored under RCRA are scheduled for closure under the Site Part-B RCRA Permit except the Liquid Effluent Retention Facility and low-level burial ground, which are operating facilities that will be monitored under final status detection evaluation as soon as final status groundwater monitoring plans are approved.

2.2.6.4 RCRA Inspections

DOE and its contractors are working to resolve outstanding notices of violation and warning letters of noncompliance from the Washington State Department of Ecology that were received during 1999. Each of these notices lists specific violations. RCRA noncompliance events for 1999 are detailed below.

Table 2.2.2. RCRA Interim- and Final-Status Groundwater Monitoring Projects

TSD Units, date initiated	Interim-Status TSD Unit Groundwater Monitoring: Indicator Parameter Evaluation[a]	Interim-Status TSD Unit Groundwater Monitoring: Groundwater Quality Assessment, date initiated	Final-Status TSD Unit Groundwater Monitoring: Detection Evaluation	Final-Status TSD Unit Groundwater Monitoring: Corrective Action, date initiated	Regulations	Year Scheduled for Part B or Closure
1301-N LWDF, December 1987			X[b]		40 CFR 265.93(b) WAC 173-303-400	1999[c]
1324-N/NA LWDF, December 1987			X[b]		40 CFR 265.93(b) WAC 173-303-400	1999[c]
1325-N LWDF, December 1987			X[b]		40 CFR 265.93(b) WAC 173-303-400	1999[c]
120-D-1 ponds, April 1992	X, clean closed in FY 1999				40 CFR 265.93(b) WAC 173-303-400	1998[d]
183-H solar evaporation basins, June 1985				X, 1998	40 CFR 264 WAC 173-303-645(10)	1994[c]
WMA S-SX October 1991		X, 1996			40 CFR 265.93(d) WAC 173-303-400	>2000[c]
WMA T, February 1990		X, 1993			40 CFR 265.93(d) WAC 173-303-400	>2000[c]
WMA TX-TY, September -October 1991		X, 1993			40 CFR 265.93(d) WAC 173-303-400	>2000[c]
WMA U, October 1990		X, 1999			40 CFR 265.93(b) WAC 173-303-400	>2000[c]
216-S-10 pond and ditch, August 1991	X				40 CFR 265.93(b) WAC 173-303-400	>2000[c]
216-U-12 crib, September 1991		X, 1993			40 CFR 265.93(d) WAC 173-303-400	>2000[c]

Table 2.2.2. (contd)

TSD Units, date initiated	Interim-Status TSD Unit Groundwater Monitoring: Indicator Parameter Evaluation[a]	Interim-Status TSD Unit Groundwater Monitoring: Groundwater Quality Assessment, date initiated	Final-Status TSD Unit Groundwater Monitoring: Detection Evaluation	Final-Status TSD Unit Groundwater Monitoring: Corrective Action, date initiated	Regulations	Year Scheduled for Part B or Closure
LLWMA 3, October 1988	X				40 CFR 265.93(b) WAC 173-303-400	TBD[e,f]
LLWMA 4, October 1988	X				40 CFR 265.93(b) WAC 173-303-400	TBD[e,f]
WMA A-AX, February 1990	X				40 CFR 265.93(b) WAC 173-303-400	>2000[c]
WMA B-BX-BY, February 1990		X, 1996			40 CFR 265.93(d) WAC 173-303-400	>2000[c]
WMA C, February 1990	X				40 CFR 265.93(b) WAC 173-303-400	>2000[c]
PUREX cribs[g] 1988		X, 1997			40 CFR 265.93(d) WAC 173-303-400	>2000[c]
216-B-3 pond, November 1988	X				40 CFR 265.93(b) WAC 173-303-400	2000[c]
216-A-29 ditch, November 1988	X				40 CFR 265.93(b) WAC 173-303-400	2000[c]
216-B-63 trench, August 1991	X				40 CFR 265.93(b) WAC 173-303-400	>2000[c]
LERF, July 1991			X, 1998[h]		40 CFR 265.93(b) WAC 173-303-400	1998[e]
LLWMA 1, September 1988	X				40 CFR 265.93(b) WAC 173-303-400	TBD[g,h]
LLWMA 2, September 1988	X				40 CFR 265.93(b) WAC 173-303-400	TBD[g,h]

Table 2.2.2. (contd)

TSD Units, date initiated	Interim-Status TSD Unit Groundwater Monitoring: Indicator Parameter Evaluation[a]	Interim-Status TSD Unit Groundwater Monitoring: Groundwater Quality Assessment, date initiated	Final-Status TSD Unit Groundwater Monitoring: Detection Evaluation	Final-Status TSD Unit Groundwater Monitoring: Corrective Action, date initiated	Regulations	Year Scheduled for Part B or Closure
NRDWL, October 1986	X				40 CFR 265.93(b) WAC 173-303-400	>2000[c]
316-5 process trenches, June 1985				X, 1996	40 CFR 264 WAC 173-303-645(10)	1996[c,i]

(a) Specific parameters (pH, specific conductance, total organic carbon, and total organic halides) used to determine if a facility is affecting groundwater quality. Exceeding the established limits means that additional evaluation and sampling are required (groundwater quality assessment). An X in the assessment column indicates whether an evaluation was needed or an assessment was required.
(b) Monitored according to interim-status plan as specified in closure plans.
(c) Closure/postclosure plan; TSD unit will close under final status.
(d) Closure plan approval expected in fiscal year 1999; facility groundwater monitoring not required after clean closure.
(e) Part B permit; TSD unit scheduled to operate under final-status regulations beginning in year indicated.
(f) Facility Part B permit and final-status groundwater monitoring plan contingent on completion of solid waste environmental impact statement.
(g) 216-A-10, -A-36B, and A-37-1 combined into one RCRA monitoring unit. RCRA monitoring will be performed according to interim-status groundwater quality assessment requirements.
(h) Will monitor groundwater under interim status until final-status groundwater monitoring plan is approved.
(i) Closure plan pending approval from Washington State Department of Ecology.

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980.
LERF = Liquid effluent retention facility.
LLWMA = Low-level waste management area.
LWDF = Liquid waste disposal facility.
NRDWL = Nonradioactive Dangerous Waste Landfill.
PUREX = Plutonium-uranium extraction (plant).
RCRA = Resource Conservation and Recovery Act of 1976.
TBD = To be determined.
TSD = Treatment, storage, or disposal (unit).
WMA = Waste management area (single-shell tank farm).
> = Beyond the year 2000.

Table 2.2.3. New Well Installation Summary for Calendar Year 1999

Well Number	Location	Operational Area
299-W15-41	TX-TY Tank Farm	200 West
299-W22-48	S-SX Tank Farm	200 West
299-W22-49	S-SX Tank Farm	200 West
299-W22-50	S-SX Tank Farm	200 West
299-W26-13	216-S-10	200 West
699-43-44	Former B Pond	200 East
299-E33-344	B-BX-BY Tank Farm	200 East
299-E33-335	B-BX-BY Tank Farm	200 East

- The EPA and Washington State Department of Ecology conducted an inspection of the Hanford Site from May through July 1998. The inspection identified concerns that resulted in the issuance of a complaint by EPA citing three violations of RCRA regulations that included storage without a permit, failure to make a hazardous waste determination, and failure to immediately amend a contingency plan. Civil penalties were assessed for the sum of $367,078.

  The DOE Richland Operations Office made a formal response to the complaint and included a request for a hearing. In addition, the response identified defenses for each of the three counts and made a request for dismissal. The third count was subsequently dismissed. A settlement for the remainder of the complaint is being negotiated and will probably include performing supplemental environmental projects.

- The Washington State Attorney General, Washington State Department of Ecology, DOE Richland Operations Office, Fluor Hanford, Inc., and Lockheed Martin Hanford Corporation entered into a settlement agreement on March 15, 1999, resolving Administrative Order 98NW-009 and Notice of Penalty 98NW-007 issued by the Washington State Department of Ecology on September 24, 1998 and July 23, 1998, respectively. The settlement agreement stipulated the resolution of penalty, enforcement duration, dispute resolution, reporting requirements, and leak detection provisions regarding operation of the Double-Shell Tank System.

- The Washington State Department of Ecology issued a Notice of Correction following a follow-up enforcement inspection at the 222-S Laboratory Complex conducted on February 9, 1999. One violation, three concerns, and one corrective measure were identified regarding the inspection of satellite accumulation areas in accordance with the Pollution Control Hearings Board Order of Dismissal #97-189.

  The DOE Richland Operations Office responded on June 1, 1999, and submitted the required corrective measure report. The Washington State Department of Ecology responded on June 3, 1999, and provided written acceptance and approval of the documentation submitted, closing the corrective actions.

- The Washington State Department of Ecology issued a Notice of Correction on June 3, 1999, following a compliance inspection of the Hanford Site Land Disposal Restriction program on September 29, 1998. The inspection was in support of the 1998 Hanford Site Land Disposal Restriction Report per Tri-Party Agreement Milestone M-26-01H (Ecology et al. 1998). The Notice of Correction identified 4 violations, 13 concerns, and 5 corrective measures.

  The DOE Richland Operations Office and Washington State Department of Ecology signed a modified Stay of Proceedings on July 27, 1999. The DOE Richland Operations Office transmitted a response to the Land Disposal Restriction Notice of Correction on August 18, 1999, in accordance with the modified Stay of Proceedings. Efforts to resolve the identified issues continue.

- The Washington State Attorney General offered the DOE Richland Operations Office,

Fluor Hanford, Inc., and BWHC an opportunity to enter into a settlement agreement resolving Notice of Penalty 97NM-248 issued by the Washington State Department of Ecology on September 16, 1997. This Notice of Penalty was associated with a chemical release that occurred in 1997. The proposed settlement agreement stipulated the duration of agreement, innovative settlement payment, and enforcement and dispute resolution provisions during the term of agreement. The Pollution Control Hearings Board approval was obtained on July 7, 1999, making the settlement agreement effective.

- Following an investigation by the South Carolina Department of Health and Environmental Control, violation of state and federal regulations were identified. On May 20, 1999, it was discovered that a shipping cask received at Chem-Nuclear Systems at Barnwell, South Carolina, had removable contamination levels exceeding U.S. Department of Transportation limits. In another cask shipment on November 24, 1999, a sample container rack and liquids were discovered in the cask upon arrival at Barnwell that were not listed on the shipment manifest. Both casks had been shipped from Hanford to Chem-Nuclear Systems for maintenance work.

  The DOE Richland Operations Office submitted corrective documentation to the South Carolina Department of Health on July 26, 1999. The corrective action included measures to prevent reoccurrence. The South Carolina Department of Health and Environmental Control reviewed the corrective measures and accepted them on August 23, 1999.

- Following a September 1999 inspection, the Washington State Department of Ecology issued a notice of penalty for $9,700 on November 17, 1999, alleging failure to properly label a gallon of tributyl phosphate waste. The waste is not considered a hazardous waste under RCRA, but it is considered a dangerous waste under Washington State regulations. The waste was generated at U Plant and disposed of at the Environmental Restoration Disposal Facility.

  For the same waste, EPA issued a Notice of Violation under the Hanford Federal Facility Agreement alleging failure to prepare a Waste Control Plan prior to generating the waste, and for failing to implement a Sampling and Analysis Plan. Following the submittal of corrective action plans, EPA issued a $55,000 civil penalty.

  The DOE Richland Operations Office responded to the Notice of Violation and the Notice of Correction on November 24, 1999. The Washington State Department of Ecology responded on February 17, 2000, and concurred with the actions taken. The Washington State Department of Ecology considers the September 1999 inspection closed.

2.2.7 Clean Air Act

Federal, state, and local agencies enforce the standards and requirements of the *Clean Air Act* to regulate air emissions at facilities such as the Hanford Site. A summary of the major agency interfaces and applicable regulations for the Hanford Site is provided in the following paragraphs.

The *National Emission Standards for Hazardous Air Pollutants: Radionuclides* Federal Facility

Compliance Agreement (FFCA 1994) was signed by EPA and DOE. The agreement provides a compliance plan and schedule that are being followed to bring the Hanford Site into compliance with *Clean Air Act* requirements under 40 CFR 61, Subpart H, for continuous measurement of emissions from applicable airborne emission sources. All 1999 scheduled milestones of the Federal Facility Compliance Agreement were met, and Hanford Site air emissions during 1999 remained well below the levels that approach the state and EPA offsite emission standard of 10 millirems per year. The requirements for flow and emissions measurements, quality assurance, and sampling documentation have been implemented at all Hanford Site sources and/or are tracked for milestone progress in accordance with a schedule approved by EPA and monitored by the Washington State Department of Health.

The Washington State Department of Health's Division of Radiation Protection regulates radioactive air emissions statewide through delegated authority from EPA and Washington State legislative authority. Washington State Department of Health implements the federal/state requirements under state regulation (WAC 246-247). Prior to commencing any work that would result in creating a new or modified source of radioactive airborne emissions, a notice of construction application must be submitted to the Washington State Department of Health, and EPA for review and approval. Ensuring adequate emission controls, emissions monitoring/sampling, and/or annual reporting of air emissions are typical requirements for radioactive air emission sources. The Hanford Site operates under state license FF-01 for such emissions. Conditions specified in the FF-01 license will be incorporated into the Hanford Site air operating permit, scheduled to be issued in late 2000. The Hanford Site air operating permit will be issued in accordance with Title V of the *Clean Air Act Amendments of 1990*, and will be implemented through federal and state programs under 40 CFR 70 and WAC 173-401. The permit is intended to provide a compilation of applicable *Clean Air Act* requirements both for radioactive emissions and for nonradioactive emissions at the Hanford Site. The permit requires the DOE Richland Operations Office to submit periodic reports and an annual compliance certification to the lead agency.

The Washington State Department of Ecology Nuclear Waste Program regulates air toxic and criteria pollutant emissions from the Hanford Site. The Department enforces state regulatory controls for air contaminants as allowed under the Washington *Clean Air Act* (RCW 70.94). The Washington State Department of Ecology's implementing requirements (e.g., WAC 173-400, WAC 173-460) specify a review of new source emissions, permitting, applicable controls, reporting, notifications, and provisions of compliance with the general standards for applicable sources of Hanford Site emissions.

EPA regulates other potential air emission sources at the Hanford Site. Under 40 CFR 61, Subpart M, EPA regulations specifically address asbestos management requirements under the *Clean Air Act*. These regulations apply at the Hanford Site with regard to building demolition and/or asbestos renovation and waste disposal operations. Asbestos at Hanford is handled in accordance with EPA regulations and approved contractor procedures. In addition, Title VI of the *Clean Air Act Amendments of 1990* require regulation of the service, maintenance, repair, and disposal of appliances containing Class I and Class II ozone-depleting substances (refrigerants) through implementation of the requirements in 40 CFR 82. Implementation of the ozone-depleting substance management requirements on the Hanford Site is administered at the facility/project level, as applicable.

At the local level, EPA designated the Benton Clean Air Authority with responsibility to oversee and enforce EPA asbestos regulations under the national emission standards for hazardous air pollutants (40 CFR 61, Subpart M). In addition, the Benton Clean Air Authority regulates open burning, as an extension of the Washington State

Department of Ecology's open burning requirements (WAC 173-425). In both areas of responsibility, the Benton Clean Air Authority enforces/adopts the federal and/or state regulations, by reference, as well as imposes additional requirements on sources such as the Hanford Site from the local agency level.

2.2.7.1 Clean Air Act Enforcement Inspections

DOE and its contractors work to resolve outstanding compliance findings from the Washington State Department of Health and Washington State Department of Ecology inspections. The noncompliance events in 1999 are listed below.

- The Washington State Department of Health issued a Notice of Correction (AIR-95-905 and AIR-99-907) in response to a compliance inspection of the 296-B-10 emission unit and sampling system conducted on June 24, 1999. The 296-B-10 emission unit provides ventilation for the Waste Encapsulation and Storage Facility located in the 200-East Area. The inspection noted that the sample holder appeared to be cross-threaded. While facility personnel were checking the system, the sample holder became disengaged and separated, drawing into question the accuracy and reliability of the sampling results. The inspection concluded that the procedure governing the inspection and the sample exchange for the stacks record sampler should be modified to ensure personnel are verifying the proper configuration. A response was sent to the Washington State Department of Health on November 8, 1999 (00-OSS-022). The issue is still open.
- The Washington State Department of Health issued a Notice of Correction (AIR 99-914) in response to a compliance inspection of the 291-Z-1 emission unit conducted on May 19, 1999. The 291-Z-1 emission unit provides ventilation for the Plutonium Finishing Plant in the 200-West Area of the Hanford Site. The inspection noted concerns with the amount of elapsed times between air filter annual in-place aerosol tests. This issue was identified in previous inspections and has been resolved. The DOE Richland Operations Office responded to the Notice of Correction. The Washington State Department of Health accepted the response and closed the inspection on October 8, 1999.
- The Washington State Department of Health issued a Notice of Correction (AIR 99-1001) in response to a compliance inspection of the 296-A-17 and 296-P-26 units conducted on April 7, 1999. The emission units were identified as currently shut down but had provided ventilation to the 241-AY and 241-AZ Tank Farms in the 200-East Area the previous year. During the inspection, concerns were noted with the documentation of record sampling system flow rates. The lack of documentation raises questions with the quality of the air sample data. The Washington State Department of Health requested that procedures adequately document the daily record sample flow rate. The Washington State Department of Health on October 1, 1999 closed this inspection.
- The Washington State Department of Health issued a Notice of Correction (AIR 99-901) in response to a compliance inspection of the 296-C-5 emission unit conducted on February 8, 1999. The 296-C-5 unit provides ventilation for the 244-CR Vault located in the 200-East Area. During the inspection, concerns were noted with the lack of an adequate review. The Washington State Department of Health requested that an adequate air emission unit review process be developed and implemented. Subsequently, another Notice of Correction was issued against this inspection. It was determined corrective actions identified in an earlier compliance inspection conducted in 1997 were not completed. The Notice of Correction identified four corrective actions to be completed. The Washington State Department of Health requested that an inspection team be established to identify deficiencies of compliance

concerning emissions. The Washington State Department of Health on September 3, 1999 closed this inspection.

- The Washington State Department of Health issued a Notice of Correction (AIR 99-502) in response to a compliance inspection of the 296-T-18 emission unit conducted on December 17, 1998. The Notice of Correction contains two corrective actions identified during an earlier inspection conducted in 1997. The Washington State Department of Health requested that training and documentation be provided on the need for maintaining caps and plugs on all emission unit injection and sample ports. The Washington State Department of Health on May 11, 1999 closed this inspection.
- The Washington State Department of Health issued two Notices of Correction in response to a sitewide quality assurance audit the week of December 7, 1998. The audit identified two Notices of Correction (AIR 99-108) and 15 Best Management Practices. The Washington State Department of Health requested responses to the two Notices of Correction and one of the Best Management Practices. The Washington State Department of Health required the Pacific Northwest National Laboratory to perform external audits more frequently and to submit a schedule of the audits in response to Notice of Correction No. 1. There was no sampling procedure in place for minor radioactive airborne emission sources, and a procedure for minor emission sources was required in response to Notice of Correction No. 2. For Best Management Practice No. 1, the Project Hanford Management Contract Deficiency Tracking System did not track environmental deficiencies sufficiently, and a change to the system was requested. The DOE Richland Operations Office responded on March 25, 1999. When the procedure for a minor emission unit has been reviewed and finalized, the Washington State Department of Health will be provided a copy and the audit will be closed.

2.2.8 Clean Water Act

The *Clean Water Act* applies to point source discharges to waters of the United States. At the Hanford Site, the regulations are applied through National Pollutant Discharge Elimination System (40 CFR 122) permits that govern effluent discharges to the Columbia River.

In the past, there were two National Pollutant Discharge Elimination System permits for the site. Permit #WA-000374-3 included four inactive outfalls (005, 006, 007, and 009 in the 100-N Area) and three active outfalls (003 and 004 in the 100-K Area and 013 in the 300 Area).

An application for a permit modification for the 300 Area Treated Effluent Disposal Facility (permit #WA-002591-7) was submitted to EPA in November 1997. The application requested the transfer of outfalls 003 and 004 (100-K Area) from existing permit #WA-000374-3 to permit #WA-002591-7. The 100-N outfalls (005, 006, 007, 009, and N Springs) identified in permit #WA-000374-3 were not included in the application because active discharges to these outfalls have ceased. N Springs may have some residual seepage from the ground and this is being addressed under the CERCLA program. A summary discussing why another outfall (013A in the 300 Area) should be exempt from permitting was also attached to the application.

The revised National Pollutant Discharge Elimination System permit was issued in April 1999 and it was effective as of May 5, 1999. Now there is only one National Pollutant Discharge Elimination System permit, WA-002591-7, for the Hanford Site. This permit covers all three active outfalls: one (outfall 001) for the 300 Area Treated Effluent Disposal Facility and two (outfall 003 and 004) at

the 100-K Area. All other outfalls as mentioned above are no longer part of the National Pollutant Discharge Elimination System permit. Fluor Hanford, Inc. is the permitee for this National Pollutant Discharge Elimination System permit.

There were no noncompliances for Outfalls 003 and 004, located at 100-K Area. Table 2.2.4 lists noncompliances for Outfall 001 for the 300 Area Treated Effluent Disposal Facility.

The Hanford Site was covered by two stormwater permits in 1999. WAR-10-000F is the stormwater general permit for construction activities covering five acres or more. In accordance with the September 30, 1998, Federal Register (63 FR 52430), the stormwater general permit for industrial activity (WAR-00-000F) was terminated and replaced by the multisector general stormwater permit (WAR-05-A45F). On December 28, 1998, a Notice of Intent was submitted to EPA for coverage under the National Pollutant Discharge Elimination System multisector general stormwater permit. In compliance with this permit, the Hanford Site Stormwater Pollution Prevention Plan (HNF-4081) was completed and issued in March 1999.

The DOE Richland Operations Office has a pretreatment permit (CR-IU005) from the city of Richland to discharge wastewater from the William R. Wiley Environmental Molecular Sciences Laboratory in the Richland North Area. Also, there are numerous sanitary waste discharges to the ground, as well as 400 Area sanitary waste discharge to the Energy Northwest (formerly known as the Washington Public Power Supply System) treatment facility (see Figure 1.0.1 for Energy Northwest location). Sanitary waste from the 300 Area, the former 1100 Area, and other facilities north of, and in, Richland discharge to the city of Richland treatment facility.

Table 2.2.4. Noncompliances for Outfall 001 at the 310 Treated Effluent Disposal Facility, 1999

Date of Exceedence	Parameter	Measured Concentration	Permit Limit[a]
January	Copper	4.3 µg/L	3 µg/L[b]
February 11	Copper	5.1 µg/L	5 µg/L[c]
February	Copper	4.9 µg/L	3 µg/L[b]
October 6	Nitrite	104.5 mg/L	104 mg/L[c]
October	Nitrite	69.5 mg/L	60 mg/L[b]
November	Metals	NA[d]	NA[d,e]
Digestion of samples not performed as specified in method.			
December 12	Copper	75 µg/L	15 µg/L[c,f]
December 12	Manganese	110 µg/L	17 µg/L[c,f]
December 12	Zinc	100 µg/L	43 µg/L[c,f]

(a) Permit No. WA-002591-7.
(b) Average monthly limit.
(c) Maximum monthly limit.
(d) NA = Not analyzed.
(e) EPA 200.8 method deviation.
(f) Process upset.

2.2.8.1 Liquid Effluent Consent Order

The Washington State Department of Ecology liquid effluent consent order (DE 91NM-177), which regulates Hanford Site liquid effluent discharges to the ground, contains compliance milestones for Hanford Site liquid effluent streams designated as Phase I, Phase II, and Miscellaneous Streams. Each scheduled State Waste Discharge Permit has been issued completing all Liquid Effluent Consent Order activities. Completion of the Consent Order activities was recognized by the Washington State Department of Ecology in writing on April 1, 1999.

The first Hanford Site miscellaneous streams categorical permit was issued by the Washington State Department of Ecology for hydrotest, maintenance, and construction discharges. The permit became effective May 30, 1997 and expires on May 30, 2002. A second miscellaneous streams categorical permit for cooling water and condensate discharges was issued on May 1, 1998. The third and final miscellaneous streams permit for industrial stormwater discharges was issued by the Washington State Department of Ecology on April 1, 1999. In 1999, there were eight noncompliances with four of the eight state waste discharge permits in place at the Hanford Site. Details are listed below.

- Permit No. ST 4502, 200 Areas Treated Effluent Disposal Facility – 200 Areas facility experienced one emergency overflow at Pump Station 3. The overflow resulted from a level switch malfunction that lasted ~14 hours and discharged 1,800,000 liters (480,000 gallons) of wastewater to the 216-B-3C expansion pond.
- Permit No. ST 4500, 200 Areas Effluent Treatment Facility – The onsite laboratory performing effluent and groundwater monitoring sample analysis was not accredited by the Washington State Department of Ecology for tritium. The services of an alternate laboratory were secured until such time as the onsite laboratory was accredited for tritium analysis.
- Permit No. ST 4502, 200 Areas Treated Effluent Disposal Facility – The onsite laboratory performing effluent and groundwater monitoring was not accredited for the analysis of Washington Total Petroleum Hydrocarbons-Gasoline. The services of an alternate laboratory were secured until such time as the onsite laboratory was accredited for Washington Total Petroleum Hydrocarbons-Gasoline analysis.
- Permit No. ST 4502, 200 Areas Treated Effluent Disposal Facility – The monthly average discharge limit for iron was exceeded for September. An investigation revealed elevated iron levels in waste streams discharged to the 200 Areas Treated Effluent Disposal Facility. The elevated levels may be attributable to the aging pipes. The investigation also revealed issues with sample homogeneity and the need for filtered samples.
- Permit No. ST 4507, 100-N Sewage Lagoon – A discrepancy was discovered between analytical methods required by ST 4507 and those methods being used by the state accredited laboratory performing sample analysis. The issue was discussed with the Washington State Department of Ecology, which agreed the methods being used by the analytical laboratory were more appropriate for testing sewage lagoon effluent. A permit modification addressing the analytical method discrepancy was requested and granted by the Washington State Department of Ecology on January 5, 2000.
- Permit No. ST 4507, 100-N Sewage Lagoon – It was determined that pH and total suspended solids exceeded effluent discharge limitations for the month of April 1999. Seasonal algae growth was attributed to the elevated pH and total suspended solids within the stabilization ponds. Operational changes are anticipated to improve effluent quality.
- Permit No. ST 4507, 100-N Sewage Lagoon – Following a review of continuous flow

monitoring data, questionable data led to the determination that freezing weather had caused the lagoon flow meter to malfunction. The manufacturer was consulted and a replacement flow meter less prone to malfunction in freezing conditions was installed.

- Permit No. ST 4508, Hydrotest, Maintenance, Construction Discharges – During an annual review of water line flushing data, personnel noted that five water line flushes conducted in April 1999 exceeded the instantaneous flow rate limit of 3,800 liters per minute (1,000 gallons per minute). Flushing procedures and associated log sheets were modified to more clearly identify discharge limits.

2.2.9 Safe Drinking Water Act

There were 12 public water systems on the Hanford Site in 1999. All public water systems are required to meet the *Safe Drinking Water Act*, the *Safe Drinking Water Act Amendments of 1986*, and the *Safe Drinking Water Act Amendments of 1996*. Specific performance requirements are defined within the federal regulations (40 CFR 141, EPA-570/9-76-003, EPA 822-R-96-001) and WAC 246-290. The drinking water program has been updated to comply with the changing regulatory requirements. A complete revision of WAC 246-290 was issued on April 9, 1999 and all site water programs have had the necessary changes incorporated.

The compliance monitoring program elements are updated annually with monitoring cycles beginning in January. Drinking water is monitored for radionuclides, inorganics, synthetic and volatile organics, lead and copper, asbestos, and coliform bacteria. All sampling results for 1999 met the requirements of the Washington State Department of Health. Sample results for radiological monitoring of drinking water are discussed in Section 4.3, "Radiological Surveillance of Hanford Site Drinking Water."

During 1999, the 200-East Area pump and water treatment plant was taken out of service but remains in standby if needed. The 283-W, 200-West Area Water Treatment Plant now provides potable water to customers in both 200 Areas as the primary water supply. The 300 Area pump and water treatment system was taken out of service and potable water is now supplied from the city of Richland water system. The 300 Area pump and treatment plant remain in standby if needed. The well that supplied water to the Hanford Patrol Training Academy was taken out of service in May 1999 and will not remain in standby. The training academy is now supplied by the city of Richland who will maintain the system and sample the quality of the drinking water.

2.2.10 Toxic Substances Control Act

Requirements in this act that apply to the Hanford Site primarily involve regulation of polychlorinated biphenyls. Federal regulations for use, storage, and disposal of polychlorinated biphenyls are found in 40 CFR 761. The state of Washington also regulates certain classes of polychlorinated biphenyls through the dangerous waste regulations in WAC 173-303-170.

Electrical transformers on the site have been sampled and characterized. Fourteen transformers with polychlorinated biphenyl concentrations above 500 parts per million remain in service at the Fast Flux Test Facility. The timing of the replacement and disposal of these transformers will be based on the Record of Decision to restart reactor operations or resume transition to shutdown for the Fast

Flux Test Facility. The transformers will be needed if the facility is restarted.

Defueled, decommissioned, naval reactor compartments shipped by the United States Navy to the Hanford Site for disposal contain small quantities of polychlorinated biphenyls, which are tightly bound in materials such as thermal insulation, cable coverings, and rubber. Because polychlorinated biphenyls are present, the reactor compartments were regulated under this act, through a compliance agreement between EPA and DOE. In November 1999, EPA and DOE agreed the polychlorinated biphenyls in the Navy reactor compartments meet the requirements for polychlorinated biphenyl bulk product waste under the revised *Toxic Substances Control Act* regulations, which allows for disposal of this waste in a landfill authorized to accept radionuclides. Therefore, disposal of the Navy reactor compartments is now in compliance with the current *Toxic Substances Control Act* regulations and the compliance agreement was terminated.

Nonradioactive polychlorinated biphenyl waste is stored and disposed of in accordance with 40 CFR 761. Radioactive polychlorinated biphenyl waste remains in storage onsite, pending the development of adequate treatment and disposal technologies and capacities. Requirements for the storage of radioactive polychlorinated biphenyl wastes were included in 1998 revision to the disposal amendments and have effectively removed the need for a compliance agreement between DOE and EPA, which previously provided a mechanism for the storage of these wastes. The Hanford Site continues to examine disposal and treatment options for radioactive polychlorinated biphenyl wastes.

The EPA issued a Federal Facility Notice of Significant Noncompliance on February 10, 1999, following *Toxic Substances Control Act* inspections conducted as a part of the multimedia inspection of the Hanford Site. The inspection was conducted from May 13 through May 15, 1998. The findings included 16 corrective actions. DOE Richland Operations Office responded on February 26, 1999, and submitted the required responses to the Federal Facility Notice of Significant Noncompliance.

2.2.11 Federal Insecticide, Fungicide, and Rodenticide Act

This act is administered by EPA. The standards administered by the Washington State Department of Agriculture to regulate the implementation of the Act in Washington State include: *Washington Pesticide Control Act* (RCW 15.58), *Washington Pesticide Application Act* (RCW 17.21), and rules relating to general pesticide use codified in WAC 16-228. At the Hanford Site, pesticides are applied by commercial pesticide operators who are listed on one of two commercial pesticide applicator licenses and by a private commercial applicator. In 1999, the Hanford Site was in compliance with the federal and state standards.

2.2.12 Endangered Species Act

Many rare species of native plants and animals are known to exist on the Hanford Site. Four species that may occur onsite (the bald eagle, Aleutian Canada goose, steelhead trout, and spring chinook salmon) are listed by the U.S. Fish and Wildlife Service as either threatened or endangered (50 CFR 17.11). Others are listed by the Washington State Department of Fish and Wildlife as endangered, threatened, or sensitive species (see Appendix F). The bald eagle is currently under

review for a change in listing status. The site wildlife monitoring program is discussed in Section 7.2, "Ecosystem Monitoring (Plants and Wildlife)."

Bald eagles are seasonal visitors to the Hanford Site. Several nesting attempts along the Hanford Reach were documented by Pacific Northwest National Laboratory in the 1990s. In compliance with the *Endangered Species Act*, the Hanford Site bald eagle management plan (DOE/RL-94-150) was finalized in 1994. That plan established seasonal 800-meter (2,600-foot) restricted access zones around all active nest sites and five major communal roosting sites. If nesting activities at the historical nesting sites are observed in January and early February, all Hanford-related activities within the restricted access zone are constrained or limited until the pair abandons nesting or successfully rears young. In 1997 and 1998, nests were built by two pairs of eagles, but the nesting attempts were abandoned by May. One pair attempted to nest again in 1999. The pair occupied and tended the nest through August, but no eggs were laid and no young were reared. Eagle protection efforts occurred through August at this site.

Steelhead and salmon are regulated as evolutionary significant units by the National Marine Fisheries Service based on their historical geographic spawning areas. The evolutionary significant units for the upper Columbia River steelhead and the upper Columbia River spring-run chinook salmon were listed as endangered in August 1997 and March 1999, respectively. A Hanford Site steelhead management plan (DOE/RL-2000-27, Rev. 0) was prepared that will serve as the formal plan for the National Marine Fisheries Service as required under the *Endangered Species Act*. Like the bald eagle management plan, the steelhead management plan discusses mitigation strategies and lists activities that can be conducted without impacting steelhead trout or their habitats.

As part of the *National Environmental Policy Act* review process, an ecological review was conducted on all Hanford Site projects to evaluate their potential of affecting federal- and/or state-listed species within the proposed project area (PNNL-6415, Rev. 12). The ecological reviews included efforts to quantify the potential impacts of project activities to and identify mitigation strategies to minimize or eliminate such impacts.

2.2.13 National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, American Indian Religious Freedom Act, Historic Sites Buildings and Antiquities Act, Archeological and Historic Preservation Act, and American Antiquities Preservation Act

Cultural resources on the Hanford Site are subject to the provisions of these seven acts. Compliance with the applicable regulations is accomplished through an active management and monitoring program that includes a review of all proposed projects to assess potential impacts on cultural resources, periodic inspections of known archaeological and historic sites to determine their condition and eligibility for listing on the National Register of Historic Places, determination of the effects of land management policies on the sites and buildings, and management of a repository for

federally owned archaeological collections. In 1999, 176 cultural resource reviews were requested and conducted on the Hanford Site.

The American Indian Religious Freedom Act requires federal agencies to help protect and preserve the rights of Native Americans to practice their traditional religions. DOE cooperates with Native Americans by providing site access for organized religious activities. See Section 7.3, "Cultural Resources," for more details regarding the cultural resources program on the Hanford Site.

2.2.14 National Environmental Policy Act

The *National Environmental Policy Act* requires preparation of an environmental impact statement. The environmental impact statement analyzes the effects associated with major federal actions that have the potential to affect the quality of the human environment.

The following sections address environmental impact statements related to the Hanford Site. Other *National Environmental Policy Act* documents include an environmental assessment, which is prepared when it is uncertain if a proposed action has the potential to impact the environment significantly and, therefore, would require the preparation of an environmental impact statement. A summary and status of environmental assessments that apply to specific activities and facilities on the Hanford Site may be found in the *National Environmental Policy Act Source Guide for the Hanford Site* (HNF-SP-0903, Rev. 6). This report is updated annually.

Additionally, certain types of actions may fall into typical classes that have already been analyzed by DOE and have been determined not to result in a significant environmental impact. These actions are called categorical exclusions, and, if eligibility criteria are met, they are exempt from *National Environmental Policy Act* environmental assessment or environmental impact statement requirements. Typically, over 20 specific categorical exclusions are documented by the DOE Richland Operations Office annually, involving a variety of actions by multiple contractors. In addition, sitewide categorical exclusions are applied to routine, typical actions conducted daily on the Hanford Site. In 1999, there were 20 sitewide categorical exclusions.

The Council on Environmental Quality, which reports directly to the President, was established to oversee the *National Environmental Policy Act* process. *National Environmental Policy Act* documents are prepared and approved in accordance with Council on Environmental Quality *National Environmental Policy Act* regulations (40 CFR 1500-1508), DOE *National Environmental Policy Act* implementation procedures (10 CFR 1021), and DOE Order 451.1A. In accordance with the Order, DOE documents prepared for CERCLA projects incorporate *National Environmental Policy Act* values such as analysis of cumulative, offsite, ecological, and socioeconomic impacts to the extent practicable in lieu of preparing separate *National Environmental Policy Act* documentation.

2.2.14.1 Recent Environmental Impact Statements

The potential environmental impact associated with ongoing, major operations at the Hanford Site have been analyzed in environmental impact statements issued in the past several years, followed by records of decision. Additional *National Environmental Policy Act* reviews, as appropriate, are being conducted during the course of the actions, moving forward as described in the records of decision. Environmental impact statements issued in 1999, and/or those that had significant related documentation issued are described below.

- A final environmental impact statement for the stabilization of plutonium-bearing materials at the Plutonium Finishing Plant was

issued in May 1996 (DOE/EIS-0244F). The proposed action is stabilization of selected plutonium-bearing materials for interim storage and immobilization of some materials for transport to a Hanford Site solid waste management facility. The record of decision was issued in July 1996 (61 FR 36352). A supplemental analysis (DOE/EIS-0244-FS/SA1) issued on March 28, 1997, provided a basis to determine whether a supplemental environmental impact statement was required prior to packaging concreted plutonium-bearing materials. It was determined that no additional *National Environmental Policy Act* analysis was required. A supplement analysis (DOE/EIS-0244-FS/SA2) issued on August 2, 1999, provided a basis to determine whether a supplemental environmental impact statement was required prior to increasing the batch size for thermal stabilization of metals, oxides, and process residues. It was determined that no additional *National Environmental Policy Act* analysis was required.

- A final environmental impact statement for a comprehensive land-use plan at the Hanford Site was issued in September 1999 (DOE/EIS-0222-F). The purpose of this land-use plan and its policies and procedures is to facilitate decisions about the site's uses and facilities over the next 50 years. The record of decision was issued in November 1999 (64 FR 61615). The U.S. Fish and Wildlife Service adopted the environmental impact statement and issued a record of decision of their own (64 FR 66928) making a refuge acquisition decision for the Wahluke Slope.

2.2.14.2 Programmatic Environmental Impact Statements

A final environmental impact statement was issued in May 1997 (DOE/EIS-0200F) to evaluate management and national siting alternatives for the treatment, storage, and disposal of five types of radioactive and hazardous waste. The Hanford Site was considered in all alternatives. A record of decision was issued in January 1998 (63 FR 3623) on treatment and storage of transuranic waste. A subsequent record of decision on hazardous waste treatment was issued in August 1998 (63 FR 41810). A record of decision for storage of immobilized high-level waste was issued in August 1999 (64 FR 46661).

A draft environmental impact statement (DOE/EIS-0287ID was issued by the Idaho National Engineering and Environmental Laboratory in December 1999 for the disposition of Idaho high-level waste and facilities in which Hanford was listed as an alternative.

The Office of Nuclear Energy, DOE Headquarters, is preparing a separate programmatic environmental impact statement, to evaluate expanded civilian nuclear energy research and development and isotope production missions in the United States. This environmental impact statement includes the role of the Hanford Site's Fast Flux Test Facility. It is anticipated that a draft environmental impact statement will be issued in 2000.

2.2.14.3 Site-Specific Environmental Impact Statements in Progress

An environmental impact statement is being prepared for the Hanford Site Solid Waste (Radioactive and Hazardous) Program (DOE/EIS-0286). A draft is being prepared in cooperation with the Yakama Nation; it is expected to be issued for public comment in 2000.

2.2.14.4 Recent Environmental Assessments

An environmental assessment was prepared to determine whether an environmental impact statement would be required to widen trench 36 of the

218-E-12 low-level burial ground (DOE/EA-1276). The environmental assessment analyzed the impact of modifying, expanding, and operating a currently unused solid waste trench to better manage bulk low-level solid waste. The analysis of the anticipated impacts led to a conclusion that no significant impacts were expected. A finding of no significant impact was issued on February 11, 1999, determining that no further review was required under the *National Environmental Policy Act*.

An environmental assessment, *Treatment of Low-Level Mixed Waste at an Offsite Thermal Treatment Facility* (DOE/EA-1135), was prepared in May 1999. The purpose of the assessment was to determine whether an environmental impact statement would be required for a proposal to transport low-level mixed waste from an Hanford Site storage facility to an offsite, RCRA permitted, thermal treatment facility. The facility, to be operated by a service contractor in Richland, Washington, would treat the waste by thermal destruction and return the residual ash to the Hanford Site for disposal. The analysis of the anticipated impact led to a conclusion that no significant impact was expected. A finding of no significant impact was issued on May 6, 1999, determining that no further review was required under the *National Environmental Policy Act*.